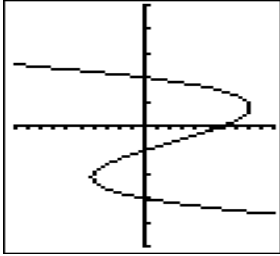


## 1.2 Inverses

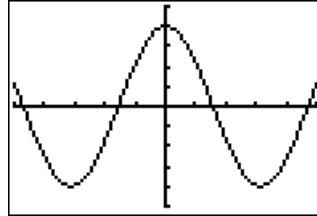
Name \_\_\_\_\_ Date \_\_\_\_\_ Period \_\_\_\_\_

In each exercise determine a) whether the relation is a function and b) whether the relations inverse is a function.

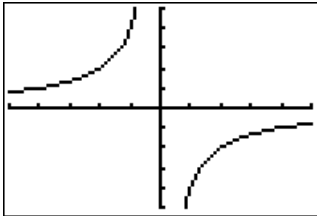
1.



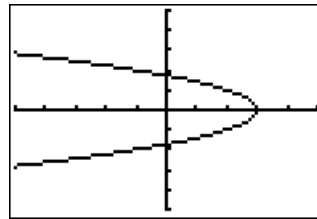
2.



3.



4.



Find a formula for  $f^{-1}(x)$ . Give the domain of  $f^{-1}$ , and any restrictions "inherited" from  $f$ .

5.  $f(x) = 2x + 5$

6.  $f(x) = \frac{2x-3}{x+1}$

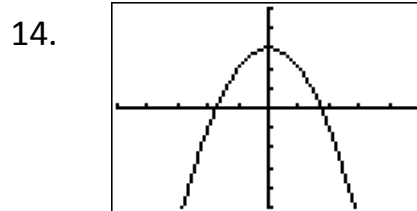
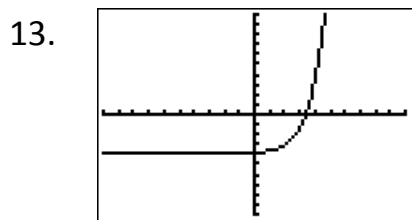
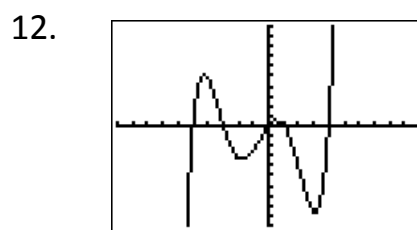
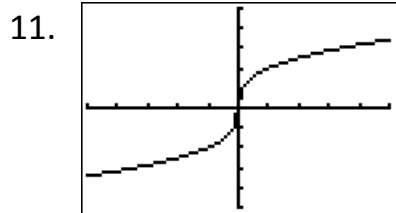
7.  $f(x) = \sqrt{x-2}$

8.  $f(x) = x^3 + 4$

9.  $f(x) = \sqrt[3]{x+3} - 2$

10.  $f(x) = (x-1)^3 + 6$

Determine whether the function is one-to-one. If it is one-to-one, sketch the graph of its inverse.



Confirm that  $f$  and  $g$  are inverses by showing that  $f(g(x)) = x$  and  $g(f(x)) = x$ . Show work!

15.  $f(x) = 3x - 2$  and  $g(x) = \frac{x+2}{3}$

16.  $f(x) = \frac{x+3}{4}$  and  $g(x) = 4x - 3$

17.  $f(x) = x^3 + 1$  and  $g(x) = \sqrt[3]{x-1}$

Use the table to write the table for the inverse function.

18.

$x$	$f(x)$
0	4
2	2
4	-4
6	-14
8	-28

For each function, find a suitable domain to make the function an invertible function. Show work!

19.  $f(x) = 2x^2 - 3$

20.  $f(x) = -2|x| + 6$